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Participatory and Collaborative Modelling: Bringing Together Expert-driven Knowledge and Tools and Local Knowledge and Practices

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Participatory and Collaborative Modelling: Bringing Together Expert-driven Knowledge and Tools and Local Knowledge and Practices

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Abstract:

Enhancing the use of expert-driven knowledge and tools goes hand in hand with the involvement of stakeholders and decision-makers in the planning and modelling processes. The combination of expert-driven knowledge and tools, and local knowledge is a pre-requisite for developing sustainably. Today still often technical experts build analytical models to provide institutions with high-quality information to inform planning and decision-making. On the other hand, stakeholders engage in consultations about existing problems in the river basin and help to develop a list of possible interventions. These two paths often run parallel and tend only to cross at the beginning of the process when data is collected and at the end when model results are presented for discussion and decision-making. Stakeholders often have little option but to accept the results obtained by the experts. This frequently results in limited implementation of master plans and/or poor O&M. There is therefore the need to supporting greater flexibility and adaption in modelling practices, by balancing expert-driven and participatory approaches, and enhancing the use of qualitative-quantitative methodologies. Participatory and collaborative modelling helps to bring technical experts to resolve complex problems together with stakeholders and decision-makers to improve the decision-making process. Stakeholders formally learn more about the models and modellers spend time working with stakeholders and using their local knowledge for the development and use of the models. This results in enhancing the models and their data for complex decision-making and policy formulation. In this presentation, the concepts of participatory and collaborative modelling will be introduced with the support of illustrative cases from Asia and Africa related to environmental modelling, and the resulting good practices.

Keywords: participatory and collaborative modelling; environmental modelling; stakeholder engagement; water resources management; decision making;